

93

8 said illumination optical system including an optical
9 device disposed on the optical axis to form a light
10 intensity distribution having a substantially annular shape
11 on a pupil plane of the projection optical system, the
12 optical device being capable of changing at least one of the
13 annular ratio, the outer diameter, and the inner diameter of
14 the light intensity distribution in accordance with a
15 pattern on the mask.--

REMARKS

This application contains Claims 1-97. Claims 1-25 are original claims. Claims 26-29 were added in the parent application and have been amended. Claims 30-90 were added in this application. Claims 91-97 have been added by this amendment.

Claims 1-29 in the parent application were rejected under 35 U.S.C. § 251 as being based upon a defective reissue declaration. Claims 27-29 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 26-29 were rejected under 35 U.S.C. § 102(b) as being anticipated by Japanese document 61-91662. Claims 1-29 were rejected under 35 U.S.C. § 102(e) as being anticipated by Inoue et al. (U.S. Patent No. 5,627,626). Claim 28 was rejected under 35 U.S.C. § 102(b) as being anticipated by Uehara (U.S. Patent No. 4,498,742). Claim 26 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese document 61-91662 in view of either Kawashima et al. (U.S.

Patent No. 5,489,966), Kimura (U.S. Patent No. 5,168,157), or Takahashi (U.S. Patent No. 4,902,115).

Support for the amended and new claims can be found throughout the specification. See, e.g., the Abstract; col. 2, lines 3-20; col. 2, line 61 to col. 3, line 3; col. 3, line 65 to col. 6, line 67; and col. 7, line 27 to col. 8, line 14.

Applicants have provided the following comments regarding references relied upon in the rejections in the parent applications:

Claim 26

JP61-91662 only mentions that σ is fixed at 0.5-0.7 in stop 9 in Fig. 5. The reference fails to show the value σ of the stop in Fig. 1. The reference does not disclose that inner diameter d_1 and outer diameter d_2 of secondary light source should be $1/3 \leq d_1/d_2 \leq 2/3$.

Claim 27

Similar to Claim 26, JP 61-91662 does not disclose that NA_2/NA_1 of an annular illumination source is $0.45 \leq NA_2/NA_1 \leq 0.82/3$. The reference also is silent about an optical device which may vary the value of NA_2/NA_1 .

Claim 28

JP 61-91662 shows in Figs. 1, 3 and 4 stops with different shapes. The reference, however, does not show

that an optical member changes an annular ratio of the annular illumination source in accordance with a pattern formed on the mask. This is also true of Uehara (USP 4,498,742).

Claim 29

JP 61-91662 discloses providing an annular secondary light source and a circular secondary light source. The reference, however, does not teach that an optical device changes an annular ratio of the annular secondary light source and size of a circular secondary light source.

A certified English translation of priority document JP-343601 will be filed shortly to overcome the rejection under 35 U.S.C. § 102(e) based on Inoue et al.

With regard to the rejection under 35 U.S.C. § 251, a supplemental declaration will be provided (addressing the questions raised) when the claims have been found otherwise allowable. It is respectfully requested that the matter of a defective reissue declaration be held in abeyance until that time.

With regard to the rejection under 35 U.S.C. § 112, second paragraph, amended Claims 27-29 are believed to be free of the alleged indefiniteness which was the basis of the rejection.

A check for \$168.00 is attached in payment of the required fee for excess claims.

The Commissioner is hereby authorized to charge to Deposit Account No. 22-0585 any fees under 37 C.F.R. §§1.16 and 1.17 which may be required by this paper, and to credit any overpayment to that Account. If any extension of time is required in connection with the filing of this paper and has not been requested separately, then such extension is hereby requested.

Respectfully submitted,

By: Nelson H. Shapiro
Nelson H. Shapiro
Reg. No. 17,095

NHS:pdh

Vorys, Sater, Seymour
and Pease LLP
1828 L Street, N.W.
Eleventh Floor
Washington, D.C. 20036-5109
Tel: (202) 467-8806

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